That which is claimed is:

1. An organic light-emitting diode comprising:

a substrate having a first opposing surface and a second opposing surface;

a first electrode layer overlying the first opposing surface;

a light-emitting element overlying the first electrode layer, the light-emitting element comprising

a hole-transport layer and

an emissive/electron-transport layer, wherein the hole-transport layer and the emissive/electron-transport layer lie directly on one another, and the hole-transport layer comprises a cured polysiloxane prepared by applying a silicone composition to form a film and curing the film, wherein the silicone composition comprises (A) a polysiloxane prepared by reacting a silane selected from at least one substituted silane having the formula R^1SiX_3 and a mixture comprising the substituted silane and at least one tetrafunctional silane having the formula SiX_4 with water in the presence of an organic solvent, wherein R^1 is –Y-Cz, $-(CH_2)_m–C_nF_{2n+1}$, or $-(CH_2)_m–C_6F_5$, wherein Cz is N-carbazolyl, Y is a divalent organic group, m is an integer from 2 to 10, n is an integer from 1 to 3, and X is a hydrolysable group, and (B) an organic solvent; and

a second electrode layer overlying the light-emitting element.

2. The organic light-emitting diode according to claim 1, wherein the silane of component (A) is at least one substituted silane having the formula R^1SiX_3, wherein R^1 is –Y-Cz, $-(CH_2)_m–C_nF_{2n+1}$, or $-(CH_2)_m–C_6F_5$, wherein Cz is N-carbazolyl, Y is a divalent organic group, m is an integer from 2 to 10, n is an integer from 1 to 3, and X is a hydrolysable group.

3. The organic light-emitting diode according to claim 1, wherein the silane of component (A) is a mixture comprising at least one substituted silane having the formula R^1SiX_3 and at least one tetrafunctional silane having the formula SiX_4, wherein R^1 is –Y-Cz, $-(CH_2)_m-C_nF_{2n+1}$, or $-(CH_2)_m-C_6F_5$, wherein Cz is N-carbazolyl, Y is a divalent organic group, m is an integer from 2 to 10, n is an integer from 1 to 3, and X is a hydrolysable group.

4. The organic light-emitting diode according to claim 1, wherein the organic solvent of component (A) is immiscible with water.

5. The organic light-emitting diode according to claim 1, wherein the organic solvent of component (A) is miscible with water.

6. The organic light-emitting diode according to claim 1, wherein the reaction mixture for preparing the polysiloxane further comprises at least one hydrolysis catalyst.

7. The organic light-emitting diode according to claim 1, wherein the silicone composition further comprises at lest one cross-linking agent having the formula $R^2_pSiX_{4-p}$, wherein R^2 is hydrocarbyl or halogen-substituted hydrocarbyl, X is a hydrolysable group, and p is 0 or 1.

8. The organic light-emitting diode according to claim 1, wherein the silicone composition further comprises at lest one silane having the formula R^1SiX_3, wherein R^1 is –Y-Cz, $-(CH_2)_m-C_nF_{2n+1}$, or $-(CH_2)_m-C_6F_5$, wherein Cz is N-carbazolyl, Y is a divalent organic group, m is an integer from 2 to 10, n is an integer from 1 to 3, and X is a hydrolysable group.

9. The organic light-emitting diode according to claim 1, wherein the emmisive/electron transport layer comprises a fluorescent dye.

10. The organic light-emitting diode according to claim 1, further comprising at least one of a hole-injection layer and an electron injection layer.